

# Alberto Roman, PhD

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## Positions

- 2018–Present NASA Postdoctoral Program (NPP) Fellow, Jet Propulsion Laboratory, Pasadena, USA  
2015–2017 Postdoctoral Fellow, IPGP, Paris, France

## PhD Thesis

- Title: **Emplacement and Post-Emplacement Dynamics of Magma Reservoirs**  
Advisor: Claude Jaupart (IPGP)  
Jury: Antonio Costa (INGV, Italy), Nicholas Arndt (IsTerre, France), Frederic Moynier (IPGP, France), Stephen Sparks (University of Bristol, UK)

## Publications

- Roman, A. and Kuvikas, O., The plumbing system of Klyuchevskoy volcano. *In prep*
- Roman, A. and Arndt, N., Differentiated Archean crust: its thermal structure, mechanical stability and a test of the sagduction hypothesis. *Geochimica and Cosmochimica Acta*, Accepted
- Jaupart, C., Mareschal, J. C., and Roman, A., 2018, The Formation of Continental Crust from a Physics Perspective. *Geochemistry International* 56(13), 1289-132
- Roman, A. and Jaupart, C., 2017, Post-emplacement dynamics of basaltic intrusions in the continental crust. *Journal of Geophysical Research*.
- Roman, A. and Jaupart, C., 2016, The fate of mafic and ultramafic intrusions in the continental crust. *Earth and Planetary Science Letters*, 453, pp.131-140.
- Roman, A. and Jaupart, C., 2014, The impact of a volcanic edifice on intrusive and eruptive activity. *Earth and Planetary Science Letters*, 408, pp.1-8.
- Roman, A., 2015, Emplacement and post-emplacement dynamics of magma reservoirs. *PhD Thesis* 178 pages
- Roman, A., 2011, Les dimensions d'un dyke et de sa source magmatique. *MSc Dissertation*, in French, 30 pages

## Oral Communications

- Byebee, G., Zhang, S., and Roman, A., Secular evolution of mass transfer across the Moho – implications for evolution of the continental crust, *AGU Fall Meeting*, 2018, Washington
- Roman, A. M., Bergal-Kuvikas, O., Shapiro, N., Taisne, B., Gordeev, E. and Jaupart, C. P., Controls on the organization of the plumbing system of subduction volcanoes : the roles of volatiles and edifice load, *AGU Fall Meeting*, 2017, New Orleans
- Roman, A., Arndt, N., Sagduction and the onset of plate tectonics. *Goldschmidt* 2017, Paris, France

- Roman, A., Jaupart, C., Post-emplacement dynamics of basaltic intrusions in the continental crust. *AGU Fall Meeting* 2016, San Francisco, CA
- Roman, A., Stress evolution beneath a volcano: shaping the magmatic plumbing system. *VolcanoDynamics Workshop* 2016, Petropavlovsk, Kamchatka, Russia
- Arndt, N., Wilson, A., Roman, A., Jaupart, C., Bushveld's Nether Regions have Dropped Off. *EGU General Assembly* 2016, Wien, Austria
- Roman, A., Jaupart, C., Post-Emplacement behaviour of magma reservoirs. *AGU Fall Meeting* 2015, San Francisco, CA
- Roman, A., Burov E., Jaupart, C., Post-Emplacement stability and instability of magma reservoirs. *AGU Fall Meeting*, 2014, San Francisco, CA
- Roman, A. and Jaupart, C., Curved dyke trajectories beneath a mature volcanic edifice. *AGU Fall Meeting*, 2013, San Francisco, CA
- Deviron, O., Roman A., Metivier, L., Geodetic signature of an anthropogenic global warming. *EGU Fall Meeting*, 2010, Vienna, Austria

## Education

- 2011–2015 **PhD, Geophysics**, *Institut de Physique du Globe de Paris*, Paris, France.
- 2008–2011 **MSc, Geophysics**, *Institut de Physique du Globe de Paris*, Paris, France.  
honors: Ranked 2nd
- 2006 **European Studentship Erasmus**, *Université Pierre et Marie Curie, Paris 6*, Paris, France.
- 2005–2008 **BSc, Earth Sciences, Geophysics**, *Università degli studi di Milano*, Milan, Italy.  
honors: Cum Laude

## Internships

- 2010 **Topographical coupling between the core and the mantle at the CMB**, *Royal Observatory of Belgium*, Bruxelles, Belgium.  
Advisor: Veronique Dehant (Royal Observatory of Belgium)
- 2009 **Geodetic signature of anthropogenic global warming**, *Institut de Physique du Globe de Paris*, Paris, France.  
Advisor: Olivier de Viron (Institut de Physique du Globe de Paris)
- 2008 **InSAR study of the deformation in the seismogenic zone of Gemona del Friuli, North Eastern Italy**, *Università degli studi di Milano*, Milan, Italy.  
Advisor: Bruno Crippa (Università degli Studi di Milano)

## Skills

- Experimental techniques in fluid mechanics  
Numerical modeling  
Geophysical methods

## Programming languages and IT skills

Python, Matlab, Fortran, C, C++, Bash scripting, Image processing, Unix

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## Teaching Experience

Mathematics (first and second year undergrad), Numerical Analysis, Waves and Vibrations

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## Fieldwork Experience

September 2016 Field trip to Klychevskoy volcano, Kamchatka, Russia

July 2014 International Volcanological Summer School, Karymsky volcano, Kamchatka, Russia.  
Organized by Pavel Izbekov (UAF) and David Fee (UAF)

2006–2011 Field trips to the Alps and to geophysical observatories, with emphasis on cartography, structural geology and geophysical imagery

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## Languages

Italian (Mother language), French (Fluent), English (Fluent), Spanish (Basics)